

TRANS MAGNETICS INC

LEnox 9-2750

134-21 NORTHERN BLVD. FLUSHING, NEW YORK 11354

MODULATORS ■ DEMODULATORS ■ MULTIPLIERS ■ DIVIDERS
DIGITAL TO SYNCHRO CONVERTERS ■ SQUARERS ■ SQUARE-
ROOTERS ■ SOLID STATE SYNCHRO TRANSMITTER / RESOLVERS

MULTIPLIER / DIVIDER

General Description:

Series 350 and 370, available in size from 0.58 inch high flatpack, are 4 quadrant multipliers for use in multiplication, division, squaring, square rooting, generation of trigonometric functions, variable gain amplifier and similar non-linear computing.

Operation is completely compatible with operational amplifier circuitry. 350 Series are high performance. 370 Series is an economy line.

Applications are in analog computers, military control systems and industrial and process control.

RATINGS (For Multiplication Only)

Over operating temperature unless otherwise specified

TRANSFER FUNCTION $V_o = KX_1 X_2$

DC INPUT (X_1 X_2)

INPUT IMPEDANCE X_1 & X_2

DC OUTPUT

Linear Range X_1 & X_2

LINEARITY

NULL OUTPUT with either input zero at 25 C

With both inputs zero at 25 C

OUTPUT IMPEDANCE

OUTPUT CURRENT for linear operation

<u>UNIT</u>	<u>350 & 370 SERIES</u>
K	$.1 \pm 2\%$
Volts Max.	± 10
ohms min	100 K
Volts	± 10
% FS typ. max.	0.1 0.5
typ. max. typ.	± 15 mv ± 50 mv ± 10 mv
ohms max	500
ma max	1

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	<u>UNIT</u>	350 & 370 <u>SERIES</u>
<u>OUTPUT SHORT</u> circuit duration at 25 C	sec max	3
<u>3DB RESPONSE</u> EITHER INPUT, 2nd input DC	Hz typ.	100
<u>RIPPLE</u> DC to 800 Hz	mv rms max total typ. total max.	5 20 30
<u>SUPPLY VOLTAGE</u> 3 wire DC	nom.	+ 15V
<u>SUPPLY CURRENT</u>	ma max.	30
<u>LIMITS</u> - absolute max voltage input any terminal	volts	± 18
<u>SENSITIVITY</u> to supply voltage	mv/% typ. max.	2 10

PLEASE NOTE THE FOLLOWING DIFFERENCES BETWEEN MODELS

	<u>UNIT</u>	350 <u>SERIES</u>	370 <u>SERIES</u>
<u>GAIN STABILITY</u> over operating temp.	% max	1/2	3
<u>NULL STABILITY</u> over operating temp.	mv typ. max.	15 50	25 100

Series 350 Multiplier-Dividers are available in several sizes and operating temperature ranges.

<u>TEMPERATURE:</u>	SUFFIX - M	-55 to + 85 C
	C	0 to + 70 C
	R	-25 to + 85 C

- Quality Control To MIL-Q-9858.

Designs Meet MIL-E-5400, MIL-T-21200, MIL-E-5272 And
Equivalent Specifications.

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CASE STYLE: SUFFIX - P4 .580 high x 2 x 2 1/4

P2 2 1/2 x 3 3/16 x .750 inch high

NOTE:

C & R Temperature devices will operate from -55 to + 85 C at reduced accuracy

MODELS AVAILABLE

350MP4

350CP4

350RP2 - Available from stock. Price \$189.00 in 1-9 quantity.

370MP4

OTHER MODELS

Wide Band Multipliers (For AC x AC [or DC] multiplication)

Modulating Multipliers (AC x DC = AC)

Analog Dividers

Analog Squarers

Analog Square Rooters

NEW - SOLID STATE SYNCHRO SYSTEMS

INCLUDING: Solid State Synchro Transmitters
Solid State Sin-Cos Potentiometers
Digital to Synchro Converters
Angle (DC) to Synchro Converters

WRITE FOR MORE INFORMATION

All specifications are subject to change without notice and should be confirmed when ordering.

- Our Products Are Engineered To Your Design Requirements At Production Prices.

- Leading The State Of The Art In Miniaturization And Circuitry.

- Engineering Representatives At Your Door. See List In Latest Issues Of EFM, EBG.

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REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL

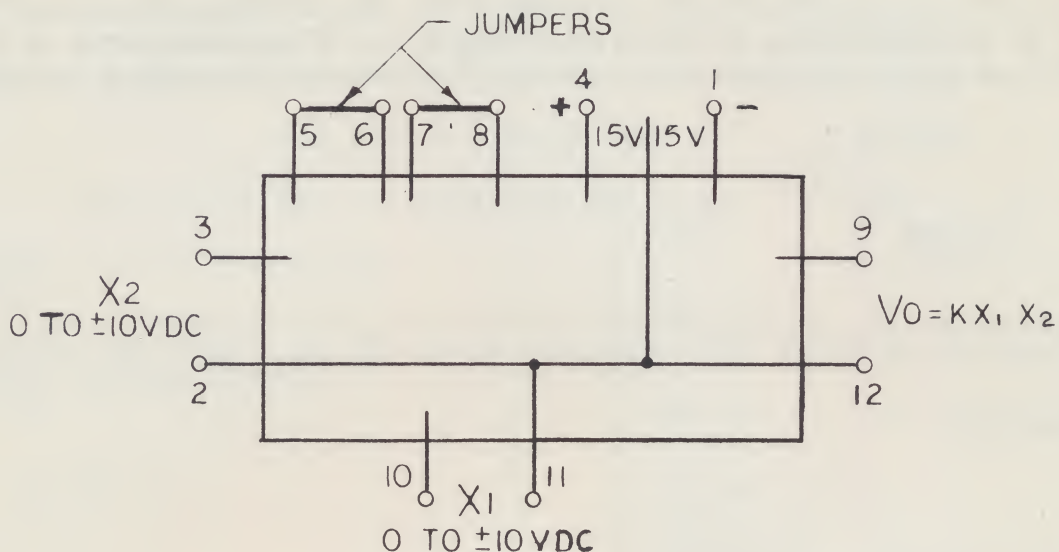


FIGURE 1 MULTIPLIER CONNECTIONS

FOR DIVIDER OPERATION REMOVE JUMPERS BETWEEN 5 & 6, 7 & 8 AND CONNECT AS FOLLOWS:

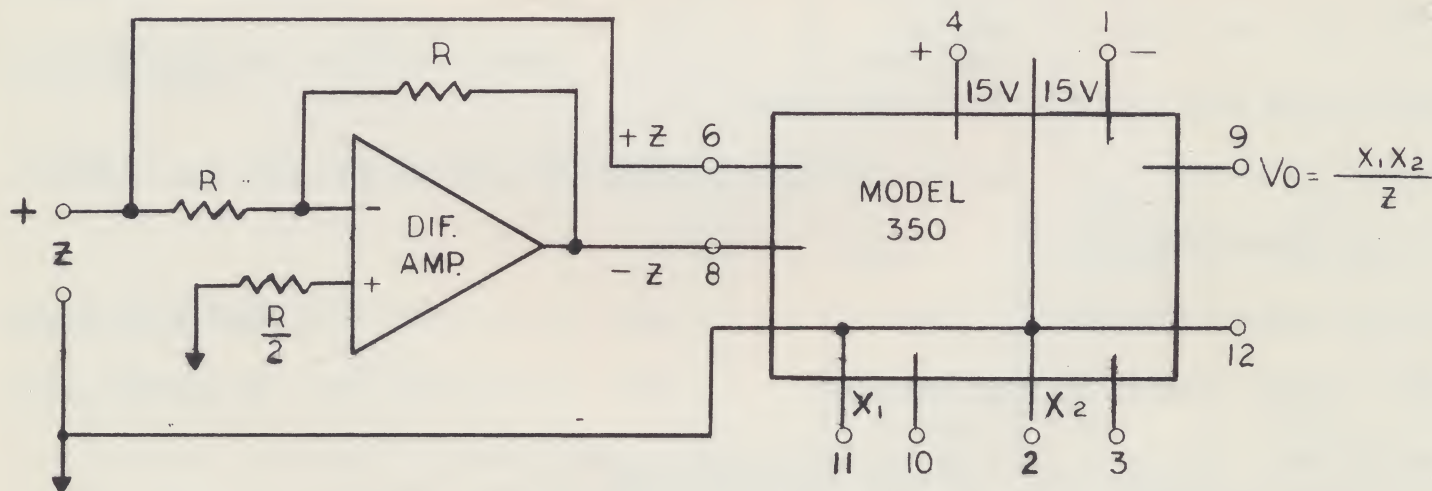







FIGURE 2 DIVIDER CONNECTIONS

NOTES

1. OUTPUT SATURATES FOR $X_1 > Z$.
2. Z MUST BE A PLUS VOLTAGE.

DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED			DRAWN K.Campbell	DATE 4-1-66	TITLE 350 - 370 CONNECTION DIAGRAMS	TRANS  MAGNETICS		
2 PL. DEC.	3 PL. DEC.	ANG.				134-08 36TH ROAD / FLUSHING 54 NEW YORK		
± 	± 	± 	CHECKED	DATE	SCALE 	SIZE A	370A001	C
			APPROVED ms	DATE				